

fringed with white on the posterior border. Tail tapering, variegated with black and rufescent hairs. Whiskers long and black.

Dimensions.—Head $1\frac{1}{2}$ inch; body 3 inches; tail 3 in.

This species, although provisionally arranged in the genus *Sciurus*, resembles in its external habit, markings, attenuated tail, and minutely fringed ears, the American genus *Tamias*, and it remains for naturalists in the higher regions of India, who may examine living specimens, to determine whether it has cheek-pouches, by which *Tamias* is distinguished from *Sciurus*.

Mr. Hodgson's collection contains a large supply of most of the Indian UNGULATA: many of these have been discovered, and first described by himself, and are known to naturalists chiefly by the copious details given in the Journal of the Asiatic Society of Bengal, and by Dr. J. E. Gray's Catalogue of the collection presented to the British Museum. Among the subjects as yet rare in collections may be mentioned *Poëphagus grunniens*, Linn., adult and one calf., *Porcula salvania*, Hodgs., and *Budorcas taxicolor*, Hodgs.* Of the latter, Mr. Hodgson has some three specimens, on the whole in good preservation; one of these is exhibited in the Museum of the East India Company, one has been presented to the British Museum, and one to the Museum at Leyden. A very perfect specimen of the *Cervus affinis* of Hodgson has also been sent, and is mounted in the Museum. Whether this be really a distinct species from *Cervus Wallichii* of Cuvier remains still to be determined; the horns of both agree in structure and subdivisions. Dr. Gray has given most copious details regarding the various, multifarious synonyms with which they are enumerated by authors (Cat. Mamm. Brit. Mus. Part iii. Ungulata furcipedæ, pp. 197 & 199).

X.—On the *Assiminia Grayana* and *Rissoa anatina*.

By WILLIAM CLARK, Esq.

To the Editors of the *Annals of Natural History*.

GENTLEMEN,

Exmouth, 26th June 1855.

I BEG to present descriptions of two testaceous Gasteropoda, which could not be obtained during the passage through the press of my volume on the British Marine Testaceous Mollusca. One of them, the *Assiminia Grayana*, is of peculiar interest, and has caused much discussion and difference of opinion

* These three interesting animals have been figured in the Illustrations of the Proc. Zool. Soc. for 1853.

respecting the structure of the tentacula and eyes, and its natural position. The other, the *Rissoa anatina*, is a Rissoidean of the group which is represented by *R. ulva*. Authors have mentioned both these animals, and the Rev. M. J. Berkeley has published a valuable memoir and figure of *A. Grayana*, in vol. v. p. 429 of the 'Zoological Journal;' but I have thought that the addition of later notes on several unobserved points of this last species, and in comparison with those of the genus *Truncatella*, would be acceptable to some of your readers.

In vol. xii. p. 4 of the 'Annals' for July 1853, and in my work above mentioned, pp. 380-6, I have expressed an opinion that the genus *Assiminia* is superfluous, and that its only species would be handed over to the genus *Truncatella*. I have been so impressed with this view, that I invited malacologists residing in the neighbourhood of Greenwich to send me live specimens of the *A. Grayana*; this request was inserted in the 'Annals,' but the appeal remained unsuccessful until this date, when I had the good fortune to obtain the long-sought-for desideratum, with an unexpected addition of the *Rissoa anatina*, both in a living state, through the kindness of my friend John Gwyn Jeffreys, Esq., of Swansea, who omits no opportunity nor spares any personal exertion to add to his valuable contributions to the molluscan branch of British natural history.

Truncatella Grayana, nobis.

Assiminia Grayana, auctorum; Brit. Moll. vol. iii. p. 70. pl. 71. figs. 3, 4; (animal) pl. H.H. f. 6.

Shell, a short strong cone of $6\frac{1}{2}$ tumid volutions, increasing rapidly in bulk from the apex to the base, which are distinctly but not deeply divided; each whorl is marked with a somewhat irregular and confused rufous-brown and a yellow spiral band, the former being the broadest, and situate at its base; the latter winds round the upper part, but in many examples the bands become so blended as to diffuse throughout the entire area the mixed hues of the two fasciæ. The transverse striæ of increment are well marked, and also obsolete rather coarse spiral lines may be detected. Aperture suboval or pear-shaped; peristome disunited; outer lip sharp; no umbilical fissure; the apex is pointed. Axis $\frac{2}{10}$ ths, diameter $\frac{1}{10}$ th of an inch.

Animal.—The mantle at the aperture of the shell is simple. The muzzle is very short and broad, flat, expanded, and curved at the end on each side, forming minute auricles with a central emargination or well-impressed sinuation, and furnished with raised elastic annular lines that enable the animal to effect a

great protrusion of the neck and rostrum ; the latter organ in every position is always borne much in advance of the foot ; it is vertically cloven, and at the under part, in the centre, slightly so, in a crosial direction, from whence the jaws or subcircular arches of the lingual riband, supported by the buccal plates, are almost momentarily exerted ; the œsophagean portion of the riband springing from the stomach is short and of rissoid stamp. The posterior part of the muzzle next the neck is suffused in different individuals with all the phases of dark colour approaching to almost black, and with all the variations of the most delicate cinereous hues ; the flattened or expanded anterior curved terminal portion abruptly becomes white, and is shot with the minutest points or flakes of a still intenser white. A not very deep longitudinal groove, or two contiguous parallel lines, are visible on the neck when moderately protruded, but these, when greatly so, are lost ; they are generally supposed to act as a conduit to the branchial water.

The dark tentacula spring from a minute mammilla, and are very short, massive, and columnar at the base, becoming, though still thick, somewhat spatulate and rounded at their whitish terminations ; in the centre of this minute plateau, at some little distance from the extremities, the large eyes are immersed, and from the intensity of the black colour are almost equally visible on the upper and lower surface ; this is their natural position when the animal is on the undisturbed march, but the instant it is disquieted, both the tentacula and eyes assume various modifications of figure : for instance, when the neck is greatly exerted, or the animal is in comparative repose, in either of these opposite conditions they become much contracted, especially at the tips, which are folded or withdrawn into a minute hollow, out of which the eyes peep, and thus appear fixed at the extremities ; but, as we have shown, this is not their true site, which here, and in all the *Truncatellæ*, is at some little, but distinct, distance from their final points.

Some authors have thought that the eyes are mounted on pedicles, connate, and of the same length as the true tentacula : this idea is wrong : we repeat their true position is an absolute immersion in the tissue ; the tentacula are therefore strict vibracula, and in nowise sustentacula. The white pupil mentioned in my first account of *Truncatella* was not detected in this species. The animal on the march carries the tentacula nearly at a rectangular divergence : this position is a marked characteristic of the genus *Truncatella*.

Foot rather short, broad and fleshy, not auricled, but subquadrate in front, with a tendency to roundness at the external angles, without a central sinuation, and deeply and conspicu-

ously labiated; when not in action rounded posteally, but in full progression it assumes a broad lancet-shape, suddenly sloping on each side to an obtuse termination; there is no longitudinal depressed line on the sole, and only a slight transverse crease is visible when the posterior portion is drawn up to the advanced one; it carries on a distinct upper fuscous lobe, which is only narrowly alated on each side, a light corneous pear-shaped operculum, with a rather indistinct submarginal nucleus, the spiral continuations of which show the fine oblique lines of increment, as in the *Littorinæ* and *Rissoa*. The animal is slow and deliberate in progression; its action is between that of *Littorina* and *Rissoa*, not having the lateral oscillatory march of the former, nor the perfectly steady advance of the latter. The foot on the upper surface is of all the hues of lead-colour; the sole is pale bluish-white, aspersed thickly with minute flakes of an intenser white.

From the non-transparency of the shell, the character of the branchiæ could not be well made out, and when examined after extraction their delicate and minute structure suffered from collapse. The neck has no appendages except the guide lines for the branchial water, and the muzzle is altogether without them. Verge long, slender, and falcate at the end.

It inhabits the Greenwich marshes in company with the *Rissoa anatina*, and seems, like many of the littoral species, to enjoy a kind of amphibious existence; it is also nearly equally at home in fresh water, or in a mixture of salt, half of each. It feeds on a common *Ulva* of the pools. I received the animals by post, deposited in a small tin box in moderately moistened weed; they remained alive for some time, but they are constitutionally sluggish.

The above minutes of this curious creature do not differ in any essential character from my recorded descriptions of the *Truncatella*, and will justify the surmises I have expressed in the earlier part of this account, that *Assiminia* is only a generic synonym of the established genus *Truncatella*.

Rissoa anatina, auctorum.

Rissoa anatina, Brit. Moll. vol. iii. p. 134. pl. 87. f. 3, 4.

Shell—of a light horn-colour, of 4–5 rounded tumid volutions, with well-marked wrinkled striæ of increment, as in *Bithynia ventricosa* (*Leachii*, nonnull.), to which, in these respects, it bears much resemblance, as well as in the entire peristome; the two are also occasionally found in the same locality, with the colour of their shells obscured by a similar black earthy deposit. This circumstance is singular, as the *Truncatella Grayana* living with

or near them is perfectly clean: perhaps the other two have some difference of habitat. Axis $\frac{3}{20}$ ths, diameter $\frac{2}{20}$ ths of an inch.

Animal.—The mantle is simple, and the linear process seen at that part which lines the upper angle of the aperture in *Rissoa ulva*, and often in other *Rissoa*, is wanting. The muzzle is long, subcylindrical, and armed with very contractile, dark, annulated ridges, which allow of a great protrusion of the neck. The buccal orifice is cloven vertically, and from it, almost without cessation, the animal shows a pair of corneous jaws, to which the short lingual riband proceeding from the stomach is united, and both portions of the tongue are supported by a pair of red fleshy plates, which are visible through the tenuity of the enveloping tissue.

The tentacula are long, not much flattened, slender and moderately pointed, of a very light ashy hue, quite smooth, divergent, with rather large black eyes at the external bases, fixed on minute semicircular expansions; at their lower half they are sparingly studded with white, flaky, minute irregular blotches, and sometimes a very fine cinereous line coasts their margins.

The foot is scarcely so proportionately long, slender, and constricted below the auricles as in the usual run of the *Rissoa*; it is perfectly rounded posteally, but parts of the margin are sometimes notched; anteally furnished with moderately large lateral auricular expansions. The opercular lobe is distinct, and shows at the junction of the foot with the body a whitish alated process on each side, and carries a rissoidean suboval operculum of laxly spiral rather indistinct turns, with an eccentric nucleus; the curved lines of each volution are coarser, fewer, and less oblique than in the generality of the *Littorinae* and *Rissoa*. The upper part of the main foot is of a darkish lead-colour, disposed in close-set fine irregular lines; the sole is either white, yellow or palely cinereous, without a longitudinal depressed central line, and aspersed thickly with minute pale-gray-coloured points or flakes. The opercular lobe is without a caudal process, but it may be observed, this is not an invariable adjunct of all *Rissoa*.

The character of the branchial plume in a young, almost white horn-coloured shell was sufficiently apparent; it consists of a flat ordinary-shaped leaf deposited in the usual position in the branchial vault, of 12 to 16 or even more coarse white strands; the transverse measure of the anterior ones and those nearest to the pericardium being the shortest, whilst the central threads are gradually elongated. The intestine is rendered visible, by its contents, through the filmy shell,—at least that length of it which proceeds from the part of the animal enclosed in the second volution to its debouchure as rectum on the right side. Verge?

The animal continues lively for some days in a mixture of salt, as well as in the fresh, or scarcely brackish water. These creatures were received from Greenwich in company with the *Truncatella Grayana*; they are neither shy nor apathetic.

Though the shell of *R. anatina* resembles the *Bithynia ventricosa* (*Leachii*, nonnull.), and is found in company with it and the *Limneus palustris*, *L. truncatulus* and *B. impura*, all of freshwater habitat, I am of opinion that the *R. anatina*, *R. ulvæ* and *R. ventrosa* are essentially of marine organization, and inhabit the salt and brackish estuaries as their natural localities, and that the *Bithyniæ* and *Limnei* are mixed with them fortuitously, —perhaps impelled into their districts by floods, and agreeably to a well-known habit and law, live and even multiply and become acclimated in localities that are not strictly natural to them.

In other words, I believe that both these tribes are eminently distinct, the one being of marine, the other of freshwater habitat, and that there is no connexion between them beyond that of accident, chance acclimation, and the alliance which is consequent on the proximity of their genera in most malacological methods. It results from these views of ours, that the *R. anatina*, *R. ventrosa* and *R. ulvæ* are in their right places as the *Ulvan* group of the *Rissoideans*.

It has been proposed to remove the above species to *Littorina*, or *Hydrobia*, or *Paludinella*; the two latter of these genera would only be useless synonyms of *Rissoa*; for the variations of the malacology of the three species from the typical *Rissoæ* are not greater, perhaps not so great, as those of many of the animals that form part of that genus, and if such differences are to be held as of generic value, every admitted *Rissoa* must have its particular genus and be itself the only species.

I have merely mentioned casually the localities of *Truncatella Grayana* and *Rissoa anatina*, but the deficiency of the detail of the habitats will be well supplied by presenting, by way of conclusion, a valuable letter from Mr. Jeffreys, which contains many excellent remarks on these points.

“9 Montague Place, Bryanstone Square,
London, 25th June 1855.

“MY DEAR SIR,—Our friend Mr. Barlee told me that he had not been successful in procuring for you specimens of the *Assiminia Grayana*, the animal of which you were desirous of examining. I went to Greenwich last Saturday, and have the pleasure of sending you some lively examples of this curious mollusk, as well as a few *Littorina* (?) *anatina*. The shell of the latter is

closely allied to *Bithynia*, but the operculum is that of *Littorina*, and the animal resembles *Paludinella ulvæ*.

“2nd July.—I again visited the Greenwich marshes yesterday for the purpose of ascertaining the range of *Littorina* (?) *anatina* and *Assiminia Grayana*, and to inform you more particularly of their respective habitats. I found both of them more or less distributed along the banks of the Thames, from a little below Greenwich Hospital to the upper Pier at Woolwich, a distance of about three miles. I met with them occasionally in the same localities, but their habitats are somewhat different. The *Littorina* inhabits muddy ditches and their banks, and it is gregarious. The other mollusk inhabits muddy places, but seldom occurs under water. It is in countless profusion at and about the roots of the water-flag, and is more generally dispersed than *L. (?) anatina*. It is associated with *Limneus palustris* (our *tinctus*) and *L. truncatulus*. The *Littorina* lives in company with *Bithynia impura* and *Leachii*, as well as with the *Assiminia*. I have little doubt that both kinds are also to be found on the other side of the river in the Isle of Dogs, and perhaps below Woolwich. The *Assiminia* has the same habit as *Paludinella ulvæ*, and seems to take its place on the brackish estuary of the Thames.

“I remain, my dear Sir, yours sincerely,

“J. Gwyn Jeffreys.”

“Wm. Clark, Esq.,
Exmouth, Devon.”

I am, Gentlemen,
Your most obedient servant,
WILLIAM CLARK.

XI.—*Descriptions of two newly discovered species of Araneidea.*
By JOHN BLACKWALL, F.L.S.

Tribe OCTONOCULINA.

Family CINIFLONIDÆ.

Genus CINIFLO, Blackw.

Ciniflo humilis.

Length of the female $\frac{1}{10}$ th of an inch; length of the cephalothorax $\frac{1}{24}$; breadth $\frac{1}{30}$; breadth of the abdomen $\frac{1}{18}$; length of an anterior leg $\frac{1}{8}$; length of a leg of the third pair $\frac{1}{11}$.

The four intermediate eyes describe a trapezoid, the two anterior ones, which form its shortest side, being much the smallest